

SECTION 14 24 00

HYDRAULIC PASSENGER ELEVATORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hydraulic passenger elevators.

1.2 RELATED SECTIONS

- A. Section 03300 (03 30 00) - Cast-in-Place Concrete: Elevator pits.
- B. Section 05120 (05 12 00) - Structural Steel (Structural Steel Framing): Support steel, divider beams, and hoist beams.
- D. Section 09290 (09 29 00) - Gypsum Board: Front walls.
- F. Section 09900 (09 91 00) - Painting.
- H. Section (28 31 00) – Fire Detection and Alarm.
- I. (Division 23) - Heating, Ventilating, and Air Conditioning Equipment (Heating, Ventilating, and Air-Conditioning (HVAC)): Heating, cooling, and ventilation of machine room and machinery space.
- J. Section (26 05 11) - Wiring Methods (Common Work Results for Electrical): Light outlets, convenience outlets, light switches, and conduits.

1.3 REFERENCES

- A. ANSI/ASME A17.1 - Safety Code for Elevators and Escalators.
- B. ISO 9001-2000 - Quality Management Systems - Requirements.

1.4 DESIGN REQUIREMENTS

- A. Arrange elevator components in machine room so equipment can be removed for repairs or replaced without dismantling or removing other equipment components.

1.5 SUBMITTALS

- A. Comply with Section 01330 (01 33 23) - Submittal Procedures.

- B. Product Data: Submit manufacturer/installer's product data, including installation instructions.
- C. Shop Drawings: Submit manufacturer/installer's shop drawings, including plans, elevations, sections, and details, indicating location of equipment, loads, dimensions, tolerances, materials, components, fabrication, fasteners, hardware, finish, options, accessories, and other information to render totally functional elevators.
- D. Samples: Submit manufacturer/installer's samples of standard colors and finishes of finish materials.
- E. Operation and Maintenance Manual: Submit manufacturer/installer's operation and maintenance manual; including operation, maintenance, adjustment, and cleaning instructions; trouble shooting guide; renewal parts catalogs; and electrical wiring diagrams.
- F. Warranty: Submit manufacturer/installer's standard warranty.

1.6 QUALITY ASSURANCE

- A. Manufacturer/Installer's Qualifications: Specialize in manufacturing and installing elevator equipment, with a minimum of 5 years successful experience.
- B. Regulatory Requirements:
 - 1. Elevator design, clearances, construction, workmanship, materials, and installation, unless specified otherwise, shall be in accordance with ANSI/ASME A17.1, handicap accessibility, Americans with Disabilities Act, and other codes having legal jurisdiction.
 - 2. ANSI/ASME A17.1 shall govern, except where codes having legal jurisdiction include more rigid requirements or conflict with ANSI/ASME A17.1.
 - 3. Elevator shall follow design and manufacturing procedures certified in accordance with ISO 9001-2000 to meet product and service requirements for quality assurance for new products.
- C. Pre-installation Meeting:
 - 1. Convene pre-installation meeting before start of installation of elevators.
 - 2. Require attendance of parties directly affecting work of this section, including Contractor, Architect, and elevator manufacturer/installer.
 - 3. Review examination, installation, field quality control, adjusting, cleaning, protection, and coordination with other work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer/installer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer/installer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer/installer's instructions.
- C. Handling: Protect materials during handling and installation to prevent damage.

1.8 PROJECT CONDITIONS

- A. Temporary Electricity:
 - 1. Owner will arrange for temporary 3-phase electricity to be available for installation of elevator components.
- B. Temporary Use of Elevator:
 - 1. Owner will negotiate with manufacturer/installer for temporary use of elevator, if required.

1.9 SCHEDULING

- A. Coordinate elevator work with work of other trades, for proper time and sequence to avoid construction delays.

1.10 WARRANTY

- A. Manufacturer/installer shall guarantee materials and workmanship of equipment installed under these specifications and make good, defects not due to ordinary wear or to improper use, which may develop within 1 year after completion of installation or acceptance thereof by beneficial use, whichever is earlier.

1.11 MAINTENANCE SERVICE

- A. Elevator maintenance service shall be performed by elevator manufacturer/installer.
- B. Elevators shall receive regular maintenance on each unit for period of 12 months after completion of work specified herein or acceptance thereof by beneficial use, whichever is earlier.
- C. Trained employees shall make periodic examinations and perform work including necessary adjusting, greasing, oiling, and replacing parts to keep elevators in operation, except parts that require replacement because of accidents, vandalism, misuse, or negligence by parties other than manufacturer/installer.

- D. Manufacturer/installer shall perform all Work, except emergency minor adjustment call-back service, during regular working hours.
Manufacturer/installer shall provide emergency minor adjustment call-back service, during regular working hours.
- E. Should Owner request that examinations, cleaning, lubrication, adjustments, repairs, replacements, or emergency minor adjustment call-back service, unless specified herein, be performed on other than manufacturer/installer's regular working hours of regular working days, manufacturer/installer shall absorb straight-time labor charges and Owner will compensate manufacturer/installer for overtime premium, travel time, and expense at normal billing rates.
- F. Elevator Control System:
 - 1. Include built-in remote diagnostic module to relay constant status of elevators and control system to a 24-hour, 7-days-a-week central-monitoring facility.
 - 2. Remote Monitoring Device: Transmit information on current status of elevators, including malfunctions, system errors, and shutdown.

PART 2 PRODUCTS

2.1 MANUFACTURER/INSTALLER

Basis of Design:

- A. Schindler Elevator Corporation, PO Box 1935, Morristown, New Jersey 07962.
Phone (973) 397-6500. Website www.us.schindler.com
<<http://www.us.schindler.com>>.
- B. Elevator shall be installed by elevator manufacturer.

2.2 ELEVATOR SYSTEM AND COMPONENTS

- A. Hydraulic Passenger Elevators: Model 330A or equal.
- B. Elevator Equipment Summary:
 - 1. Application: Telescopic Holeless Dual Piston
 - 2. Service: Hospital/Service
 - 3. Quantity: 1
 - 4. Capacity: 5000 lbs
 - 5. Speed: 100 fpm
 - 6. Travel: 41 feet 0 inches
 - 7. Landings: 3
 - 8. Front Openings: 2
 - 9. Rear Openings: 0
 - 10. Operation: Microprocessor Single Car Automatic Operation
 - 11. Machine Room: Adjacent to elevator hoistway

- 12. Platform Size: 6'-0" wide x 9'-4.5" deep
- 13. Door Type: Two Speed Side Opening
- 14. Cab Height: 8'-0"
- 15. Guide Rails: Equivalent to 16 lb. per foot
- 16. Hoistway Entrances: 4'-0" wide x 7'-0" high doors
- 17. Power Supply: 208 Volts 3 Phase 60 Hz

C. Elevator Components:

- 1. Anti-stall feature.
- 2. Braille and audible signals.
- 3. Door open and close stall protection.
- 4. Emergency lighting.
- 5. Firefighter 's Service: Sensors as specified in Section _____ .
- 6. Independent service feature.
- 7. Infrared light curtain door protection.
- 8. Low oil return.
- 9. Overload sensors.
- 10. Phase protection.
- 11. Soft Start Electronic Starting
- 12. Locking Service Panel in Car Operating Panel.
- 13. Pressure Switch.
- 14. Remote Monitoring Capable.
- 15. Telephone (ADA compliant).

2.3 ELEVATOR MATERIALS

A. Finish:

- 1. Stainless Steel and Bronze: #4 satin.
- 2. Baked Enamel Colors: Manufacturer/installer's standard color selections.
- 3. Exposed Aluminum Frames in Suspended Ceilings: Anodized.

B. Plastic Laminates:

- 1. Type: General purpose.
- 2. Flame Spread Ratings: As required by code.
- 3. Pattern: Select from elevator manufacturer/installer's standard selection.

C. UL or CSA Approved: Motors, pumps, valves, fluid tank, hydraulic fluid, microprocessor controller, controls, pushbuttons, and wiring.

D. Spring Buffers, Attachment Brackets, and Anchors: Design and size according to building code with safety factors.

E. Pump: Positive displacement screw type, design for steady discharge with minimal pulsations.

F. Muffler: Reduce noise transmission.

- G. Telescopic Holeless Jack System:
 - 1. Jack Cylinder: Two jacks, one located at each side of the car and mounted to the elevator car structure.
 - 2. Synchronization of Jack Stages: Direct mechanical means to ensure elevator moves at steady speed and provides smooth ride.

2.4 ELEVATOR CABS

- A. Height: 8'-0" from finished floor to underside of canopy.
- B. Elevator Car Enclosure Wall Sections:
 - 1. Cab Wall: Steel, baked enamel finish with plastic laminate raised panels.
- C. Base, Frieze, and Reveals: Baked enamel.
- D. Ceiling:
 - 1. Suspended with exposed frame with plastic lay-in panels.
 - 2. Lighting: Fluorescent.
- E. Cab Returns: Integral construction.
 - 1. Finish: #4 stainless steel.
- F. Transoms:
 - 1. Run full width of cab.
 - 2. Finish: #4 stainless steel.
- G. Cab Doors:
 - 1. Flush design both sides.
 - 2. Rib construction.
 - 3. Finish: #4 stainless steel.
- H. Exhaust Fan:
 - 1. Single speed.
 - 2. Mount in cab transom or canopy.
- I. Handrail:
 - 1. 1/2" x 2" flat in brushed aluminum.
 - 2. Mount on rear wall.
- J. Threshold: Aluminum.
- K. Cab Finish Flooring: As specified by Owner .

2.5 HOISTWAY ENTRANCES

- A. Hoistway Doors and Frames:
 - 1. UL rated with required fire rating.
 - 2. Doors: Rigid flush panel construction with sound-deadening material.
 - 3. Frames: Securely fasten at corners to form unit frame. Frames shall be Bolted.
- B. Exposed Areas of Corridor Frames: Baked enamel primer on all floors.
- C. Doors: Baked enamel primer on all floors.
- D. Sills: Aluminum on all floors.

2.6 CAB FIXTURES

- A. Main Car Operating Panel:
 - 1. Mount in return.
 - 2. Comply with handicap requirements.
 - 3. Include pushbuttons and illuminating indications for each floor served.
 - 4. Emergency Buttons and Switches: Provide in accordance with code.
 - 5. Switches for car light and accessories.
- B. Cab Fixtures:
 - 1. Car Lantern(s).
 - 2. Digital Car Position Indicator.
 - 3. Locking Service Panel in Car Operating Panel.
 - 4. Telephone (ADA compliant).

2.7 HALL FIXTURES

- A. Pushbuttons:
 - 1. Up button and down button at intermediate floors.
 - 2. Single button at each terminal floor.
 - 3. Height: Comply with handicap requirements.
- B. Hall Fixture Finish: Black lexan.
- C. Fixture Cover Plates: Mount with tamper-resistant screws in same finish as fixture.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine hoistways, hoistway openings, pits, and machine rooms before starting elevator installation.
- B. Verify hoistway, pit, machine room, and openings are of correct size, within tolerances, and are ready for work of this section.
- C. Verify walls and sill supports are plumb, where openings occur.
- D. Verify hoistway is clear and plumb, with maximum variation of 1/2" at any point.
- E. Verify minimum 2-hour fire-resistance rating of hatch walls.
- F. Notify Architect in writing of dimensional discrepancies or other conditions detrimental to proper installation or performance of elevators.
- G. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to manufacturer/installer.

3.2 INSTALLATION

- A. Install elevators in accordance with manufacturer/installer's instructions and ANSI/ASME A17.1.
- B. Set entrances in vertical alignment with car openings, and aligned with plumb hoistway lines.

3.3 FIELD QUALITY CONTROL

- A. Perform tests of elevator as required by ANSI/ASME A17.1 and governing codes.

3.4 ADJUSTING

- A. Adjust elevators for proper operation in accordance with manufacturer/installer's instructions.
- B. Adjust elevators for smooth acceleration and deceleration of car so not to cause passenger discomfort.
- C. Adjust doors to prevent opening of doors at landing on corridor side, unless car is at rest at that landing, or is in leveling zone and stopping at that landing.
- D. Adjust automatic floor leveling feature at each floor to within 1/4 inch of landing.
- E. Repair minor damages to finish in accordance with manufacturer/installer's instructions and as approved by Architect.

- F. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

3.5 CLEANING

- A. Clean elevators promptly after installation in accordance with manufacturer/installer's instructions.
- B. Do not use harsh cleaning materials or methods that could damage finish.

3.6 PROTECTION

- A. Protect installed elevators from damage during construction.

END OF SECTION

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